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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/008,675	01/16/98	NAGATA	A

IM22/0803

JOHN S MORTIMER
WOOD PHILLIPS VANSANTEN CLARK & MORTIMER
500 WEST MADISON STREET
SUITE 3800
CHICAGO IL 60661

EXAMINER	
HOPKINS,R	
ART UNIT	**PAPER NUMBER**
1724	11

DATE MAILED: 08/03/00

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 11

Application Number: 09/008,675
Filing Date: January 16, 1998
Appellant(s): Nagata et al

John S. Mortimer
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed 6/21/00.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The appellant's statement that the claims do not stand or fall together is correct.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

3,031,364	Perkins	4-1962
5,192,382	Hamura et al	3-1993

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,3-6,10, and 13 are again rejected under 35 U.S.C. 102(b) as being clearly anticipated by Perkins(3031364).

Perkins teaches a method of treating a power transmission belt/belt sleeve(B) having an endless body with a length extending around an axis and a radially inwardly facing surface and a radially outwardly facing surface, the method comprising the steps of wrapping at least one sheet of vapor-impervious film(20; column 3 lines 50-63) against and around the radially outwardly facing surface of the belt/belt sleeve body, and vulcanizing the belt sleeve with the at least one sheet of vapor impervious film wrapped around the belt/sleeve body. Note that Nylon is mentioned as a film wrap.

Perkins further teaches the step of mounting the belt/belt sleeve on a mandrel(M) and the step of vulcanizing comprises the step of vulcanizing the belt/belt sleeve with the belt/belt sleeve

mounted on the mandrel. Perkins further teaches the step of removing the at least one sheet of vapor impervious film from the belt/belt sleeve body after vulcanizing the belt/belt sleeve. Perkins further teaches the step of treating and grinding(see abrasive sander wheel 38) the radially outwardly facing surface of the belt/belt sleeve body after removing the at least one sheet of vapor impervious film(see figure 3).

3. Claim 14,16,17,21, 24 and 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Perkins(3031364).

Perkins teaches a treating system comprising a belt/belt sleeve(B) having an endless body with a length extending around an axis and a radially inwardly facing surface and a radially outwardly facing surface, at least one sheet of vapor impervious film(20) against and extending around the radially outwardly facing surface of the belt/belt sleeve body, and a vulcanizing vessel(column 3 lines 69-70) in which the belt/belt sleeve with the at least one sheet of vapor impervious film thereon resides and in which a vulcanization process can be carried out. Perkins further teaches a mandrel(M) on which the belt/belt sleeve is mounted. Perkins further teaches at least two layers of vapor impervious film around the belt carcass(see figure 2).

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 2 is again rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins(3031364).

Perkins discloses all of the limitations of claim 2 but is silent as to wherein the step of wrapping comprises the step of wrapping at least one sheet of vapor impervious film over at least part of each of the axially spaced, axially facing ends of the belt /belt sleeve body. Examiner respectfully submits that it would have been obvious to someone of ordinary skill in the art the time of the invention to extend the vapor impervious film wrapping of Perkins to extend over the edges of belt sleeve in order to ensure edges of the belt are not damaged during vulcanization by the vapor in the pretreatment chamber.

6. Claim 15 is again rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins(3031364).

Perkins discloses all of the limitations of claim 15 but is silent as to wherein the at least one sheet of vapor impervious film extends at least partially over the axially spaced, axially facing ends of the belt/belt sleeve body. Examiner respectfully submits that it would have been obvious to someone of ordinary skill in the art the time of the invention to extend the vapor impervious film wrapping of Perkins to extend over the edges of belt sleeve to avoid the need to trim excess material from the edges which would be damaged by the exposure to the treatment vapor.

7. Claims 7-9 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins(3031364) taken together with Hamura et al(5192382).

Perkins discloses all of the limitations of claim 7 but is silent as to wherein the step of grinding comprises the step of grinding at least two grooves in the belt/belt sleeve body through the radially outwardly facing surface to define at least one V-shaped rib extending along the length of the belt/belt sleeve body. Hamura et al discloses a process wherein after vulcanization of a belt, the belt is rotated on cylindrical drums and contacts a grinding wheel having V shaped grindstones on the surface of the wheel. It would have been obvious to someone of ordinary skill in the art the time of the invention to include a grinding step wherein V-shaped grooves are imparted to the length of a vulcanized belt as disclosed by Hamura et al subsequent to formation of an endless belt in the process of Perkins since grinding to form V-belts is a well known post vulcanization shaping process(see figure 3 of Perkins) and because Perkins suggests(column 2 lines 27-30) that vulcanized belts may be subjected to a grinding operation to produce endless belts "of the desired surface smoothness and size".

8. Claim 22 is again rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins(3031364) taken together with Hamura et al(5192382).

Perkins discloses all of the limitations of claim 21 but is silent as to wherein the radially inwardly facing surface of the belt/belt sleeve body has alternating grooves and teeth along the length of the belt/belt sleeve body. Hamura et al discloses a process wherein after vulcanization of a belt, the belt is rotated on cylindrical drums and contacts a grinding wheel having V shaped

grindstones on the surface of the wheel. It would have been obvious to someone of ordinary skill in the art the time of the invention to include a grinding step wherein V-shaped grooves are imparted to the length of a vulcanized belt as disclosed by Hamura et al so that the vulcanized belt of Perkins et al has V-shaped grooves imparted along the length of the belt.

9. Claims 23,26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins(3031364).

Perkins discloses all of the limitations of claim 23 but is silent as to wherein the radially outwardly facing surface of the belt/belt sleeve body has an axial length and the sheet of vapor impervious film has a width that is greater than the axial length of the outwardly facing surface of the belt/belt sleeve body. Examiner respectfully submits that it would have been obvious to someone of ordinary skill in the art the time of the invention to extend the vapor impervious film wrapping of Perkins to extend over the edges of belt sleeve so that the entire belt sleeve is surrounded by the film. Examiner respectfully submits that such a substitution is well within the purview of someone of ordinary skill in the art during routine experimentation with the apparatus.

Perkins discloses all of the limitations of claim 26 but is silent as to wherein the vapor-impervious film is one of polymethylpentene and polyvinyl chloride. Examiner respectfully submits that both polymethylpentene and polyvinyl chloride are in the same category of vapor impervious films as nylon and are well known synthetic films, therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to substitute either one

of the claimed film materials for the nylon in Perkins in order to secure an equivalent vapor impervious film wrap around the belt carcass during vulcanization of the carcass.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gilmore(4435351) and Korean reference(90-6987) disclose a process where nylon tape, a heat contracting polyamide film, is wound around a material to be vulcanized before vulcanization, and then the tape is removed after the vulcanization process

(11) Response to Argument

ISSUE 1: Appellant argues Perkins does not teach or suggest the wrapping of at least one sheet of vapor impervious film against and around the radially outwardly facing surface of a belt/belt sleeve body. Appellant argues that a fair reading of the description in lines 53 and 55-56 of Perkin's specification is that the pressure wrap 20 maintains the integrity of the belt carcass B, and there is no express teaching that the wrap produces a vapor impervious film. Appellant further argues that the fact that the pressure wrap is not intended to be vapor impervious is borne out by Perkins' own teachings. Appellant argues that if the pressure wrap produced a sealing film, the use of the bag or envelope would be redundant and superfluous.

Examiner notes that column 3 line 53 of Perkins discloses that the wrap is formed of nylon in one embodiment. Examiner further notes that page 11 lines 16-17 of the current specification recites "The film 32 is preferably a synthetic resin film of, for example, polyamides(such as nylon

6, nylon 6,6, nylon 6,10)...". Therefore, since nylon, a synthetic resin film, is wrapped around the surface of the belt and the belt with the nylon wrap is vulcanized, then both method claim 1 and apparatus claim 14 are deemed to be clearly anticipated by Perkins.

Examiner notes that the prior art is replete with processes where nylon tape, a heat contracting polyamide film, is wound around a material to be vulcanized before vulcanization, and then the tape is removed after the vulcanization process(see for example US 4,435,351 to Gilmore(column 1 lines 48-65) and Korean reference 90-6987(abstract included), both cited as of interest). Therefore, examiner respectfully submits that a fair reading of Perkins would indicate that the nylon wrapper mentioned is a nylon tape, and that Perkins inherently realizes that the nylon film is preventing hot air from directly contacting the carcass along with holding the belt elements under pressure. Examiner respectfully submits the fact that appellant's specification identifies nylon as a synthetic resin film inherently means that the film also is vapor impervious.

Examiner respectfully submits the fact that Perkins identifies that an airtight heat resistant bag or envelope such as Mylar film may be used in conjunction with the nylon pressure wrap does not mean that the nylon pressure wrap does not exhibit a vapor impervious quality. Examiner notes that Perkins also identifies wet cotton wrap as an alternative to nylon wrap. Because cotton does not have the same vapor impervious quality as nylon, examiner respectfully submits that the airtight heat resistant bag or envelope such as Mylar film is used in conjunction with the cotton wrap to provide such a vapor impervious barrier before vulcanization. Examiner

respectfully submits that the vapor impervious characteristic of the nylon wrap permits the nylon wrap to stand alone as the only wrap around the belt carcass.

Examiner furthermore submits that unlike the standardized size jackets of the prior art, clearly the vapor impervious nylon wrap of Perkins has application to any size belt requiring vulcanization. Such is identified in column 1 lines 25-30 of Perkins, wherein Perkins discloses that lengths of belts are limited by mandrel diameters, which are in turn limited by the size of common vulcanizers(equivalent to the standardized size jackets of the prior art). Therefore, Perkins identifies an identical solution to the problem of standardized size jackets for belt carcasses posed by Appellants.

ISSUE 2: Appellant argues Perkins does not show the spirally wrapped pressure wrap 20 over the corresponding axially facing ends, as claimed. Appellant argues that since Perkins does not use the spirally wrapped pressure wrap 20 to produce a vapor impervious film, there is no need to wrap the material over at least part of the ends as claimed. Appellant argues that this further supports the appellant's position that the pressure wrap in Perkins is for integrity and not to produce a vapor impervious layer.

Examiner respectfully submits that just because the wrap does not extend over the axially facing ends of the belt carcass, does not imply that the entire wrap is not vapor impervious. Examiner respectfully submits that it would have been obvious to someone of ordinary skill in the art the time of the invention to extend the vapor impervious film wrapping of

Perkins to extend over the edges of belt sleeve in order to ensure edges of the belt are not damaged during vulcanization by the vapor in the pretreatment chamber.

ISSUE 3: Appellant argues that Hamura, while teaching grinding to form ribs, does not teach or suggest the structure in the independent claims, from which claims 7-9 and 22 depend, as described above to be lacking in Perkins.

Examiner respectfully submits that Hamura was recited to disclose specific limitations within claims 7-9 and 22 relating to the grinding process of belts, and that Hamura was not cited for disclosing the vapor impervious film of the independent claims. Examiner respectfully submits that Perkins clearly discloses such a vapor impervious film for the reasons set forth in the above paragraphs.

Therefore, for the reasons set forth above, examiner respectfully submits that the rejections to the claims over Perkins, and over Perkins taken together with Hamura et al are proper, and the rejections should therefore be sustained.

Respectfully submitted,

RAH

Conferee KS

David A. Simmons
Supervisory Patent Examiner
Technology Center 1700